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IMPORTANT FACTORS IN THE COST OF PRODUCING WHEAT.

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For something over two years the importance of wheat production has been emphasized and kept before the world, first by agitation for a guaranteed price for wheat during the war and second, by more or less serious attempts to determine the cost of producing wheat. Many citizens of America have had the lesson well driven home during war times by having to go without wheat flour entirely or in part.

While wheat-bread-eating people the world over recognize more fully than ever before the value and importance of wheat flour very few of them know what it does cost or ought to cost to produce a bushel or an acre of wheat. Even the farmers who produce the wheat know but little of the cost of producing it. While fertile prairie lands were cheaply available the matter was of little consequence and they were satisfied if they could earn a living rate of wages by growing wheat. Little account was taken of the factors of cost in producing wheat and no account whatever of the drain on soil fertility which went steadily on. Many farmers who have thought they were making wages or a living out of raising wheat are in reality only cashing in the fertility of their land. Run down and deserted farms everywhere give evidence of this.

The population of the world wants wheat flour. The farmers on wheat growing land are the only ones who can produce it. If they are to produce it they must receive for it a sufficient return to enable them, with their families, to live comfortably and to maintain the fertility of their farms. It is, therefore, important to know the factors of cost in wheat production and to find places where costs can be reduced or eliminated.

IMPORTANT COST FACTORS IN PRODUCING WHEAT.

The factors of cost in present time wheat production in the spring wheat growing section of America may be classified in the order of importance as follows: Labor (man and horse), land, seed, machinery, threshing costs, general expense, and twine cost. Fertilizer cost or values consumed is just as legitimately a cost as the preceding

items, but no one has as yet devised a satisfactory basis for determining what this cost is. No charge is commonly made, therefore, for soil fertility consumed in making a wheat crop except where commercial fertilizers or manures have been purchased for cash.

LABOR COSTS.

The cost for man and horse labor constitutes the largest item of cost in wheat production. It was found to be 41.4 per cent. of the total cost in Minnesota during the years 1913-1917.¹ With increasing wages for man labor and much higher feed cost for horse labor than prevailed during that period the labor cost now assumes an even greater proportion of the total. The opportunity for cutting the man labor cost lies in efficient management. The average hours of man labor required in Minnesota were found to be 12.3 and of horse labor 29.9. Some farmers by the use of large implements and effective methods are able to reduce the amount to 10 hours or less of man labor and 25 hours of horse labor. The cost of producing an acre of wheat would be, therefore, considerably less than the average. The rate paid for man labor is a factor of importance in the aggregate cost of an acre of wheat which is but little subject to variation during the season. The rate of horse labor, however, may be controlled to a considerable extent by the kinds and amounts of foods fed and especially by the number of hours of labor performed annually per horse.

THE LAND FACTOR.

Land is one of the largest factors in wheat production. Not all land is suited to wheat production. Climate also affects the growth and influences greatly the yield and quality of the wheat and ultimately the cost of producing it. Land that will grow wheat and that is favorably located as to climate is limited and is becoming increasingly more expensive.

It is much more difficult to grow wheat profitably on \$200 land than on \$100 land. It has been estimated that to secure the same per cent. of profit on investment on \$100 land as on \$25 land a yield more than 4 times as great must be obtained. The charge for the use of land may be computed from one of two bases. It may be charged at rental value where cash rent is paid or the rental value can be otherwise determined. Or the charge may be made up of the items of cost, which are interest on the investment in land, taxes, upkeep of drains, fences, and other land improvements. Where the values are

¹ Bulletin 179, Minn. Agr. Expt. Sta.

affected by proximity to a large city or market with a strong demand for town lots or where values are greatly affected by speculation as is now the case in the north central area the rental value is perhaps the safest basis.

In normal times where values fluctuate less wildly, the interest on investment basis is quite satisfactory. In determining the interest charge prevailing prices of land exclusive of buildings should be used and interest figured at the rate at which money may be borrowed on well secured farm loans.

In cost of production studies in Minnesota, 1913-17, the cost for the use of land was calculated to be \$4.60 an acre or 28.2 per cent. of the total cost. Land values have since risen and present costs are much larger. There is no way to reduce this acre cost for land in wheat production except to grow wheat on cheaper land. The bushel cost could of course be reduced by increasing the yield, provided the increase can be secured without corresponding increase in other expenses.²

SEED COST.

The seed cost of wheat is determined by the quality and quantity used and the market value. This is an easy figure to secure when bought for cash. When taken from the farmer's own bin, however, it is not always so easily determined. It has been agreed by farm economists that products used for seed should be charged against the crop grown at the prices at which the crops from which they are taken are credited, costs for cleaning or otherwise preparing to be added. The seed cost in Minnesota 1913-17 was 11.4 per cent. of the total cost of growing an acre of wheat.

MACHINERY COST.

Machinery plays a large part in wheat production. In fact it is because the wheat crop can be so well handled by machinery that it is so popular with farmers. The cost for machinery, however, is not fully recognized by wheat growers. And it is difficult to determine accurately the cost for machinery for a specific crop where so much of the machinery is purchased and used for all crops in common.

The charge for the use of machinery is made up of depreciation, interest on investment, cash repairs, and oils, labor for repairs and care of machinery.

Depreciation may be roughly calculated at 10 per cent per year, though in studies made in Minnesota the recorded depreciation over

² Bulletin 179, Minn. Expt. Sta.

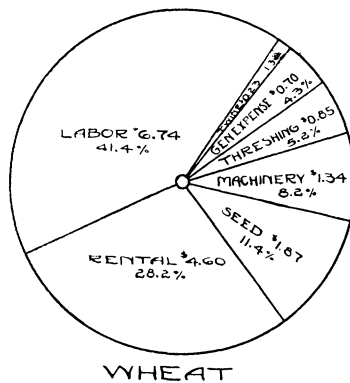
a long period of years was found to be only 7.3 per cent. There is a wide difference in rate of depreciation for different machines and also on different farms. One farmer's cost for machinery may be very much more than another's.³

In order to correctly charge machinery values it is necessary to determine the acre cost of each machine and distribute it to the various crops concerned. The cost for machinery has greatly increased during the past two or three years owing to the increased price for new machines, the increased cost of labor and repairs and other expense of maintenance. This increase is estimated to be 60 to 75 per cent. The cost for machinery in producing wheat in Minnesota, 1913-17, was found to be 8.2 per cent of the total cost.

CASH—THRESHING COSTS, GENERAL EXPENSE AND TWINE.

The minor costs in wheat growing are composed of the cash cost for threshing which is approximately 5.2 per cent. of the total, general expense 4.3 per cent, and twine cost for binding which is 1.3 per cent.

The proportionate cost is well represented by the accompanying illustration which is taken from Bulletin 179, Minn. Agr. Exp. Sta.



³ Bulletin 179, Minn. Agr. Expt. Sta.